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10/587,336	09/11/2006	Alain Wagner	128851	4836
92793	7590	01/25/2011	EXAMINER	
Oliff & Berridge, PLC			ADAMS, MICHELLE	
P.O. Box 320850			ART UNIT	
Alexandria, VA 22320-4850			PAPER NUMBER	
			1777	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction92793@oliff.com

jarnstrong@oliff.com

Office Action Summary

Application No.

10/587,336

Applicant(s)

WAGNER ET AL

Examiner

Michelle M. Adams

Art Unit

1777

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 10-19 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 20-25 and 27-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 23 August 2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. An amendment filed 15 November 2010 is acknowledged. Claims 1-3, 7, 9, 21, 22, 24, and 25 are amended, and claims 28 and 29 are newly added. Claims 1-29 are pending; claims 10-19, and 26 are withdrawn; and claims 1-9, 20-25, and 27-29 are examined on the merits.

Response to Amendment

2. In response to the amendment filed 15 November 2010, the objections to the specification and claims are withdrawn. The rejections under 35 USC § 112 are modified. The rejections over prior art are maintained.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-9, 20-25, and 27-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 2, 3, and 27 recite the limitation "the reactivity probe in the database" in stage c. There is insufficient antecedent basis for this limitation in the claims because although stage a) recites "a reactivity probe," stage a) does not recite that this reactivity probe is in a database. Likewise, the preamble recites "a database" but does recite that this database comprises a reactivity probe.

Claim 21 recites the limitation "the reaction medium in which the catalyst was tested for its catalytic activity." There is insufficient antecedent basis for this limitation in the claim because claim 1 does not recite testing catalysts for catalytic activity.

Claim 25 recites the limitation "the catalysts listed according to different reaction conditions." There is insufficient antecedent basis for this limitation in the claim because claim 1 does not recite that catalysts are listed.

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. **Claims 1-9, 20-22, 24, 25, and 27-29** are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Studer (Chem. Commun. 1999).

Regarding claims 1-3, 5, 8, 22, 24, and 27, Studer teaches a method for creating a database for selecting at least one catalyst suitable for a reaction, the method comprising the following stages:

a) preparing a plurality of different reaction media, each reaction medium comprising a reactivity probe (the varied α -ketoacetals/ α -hydroxy acetal pairs of Tables 1 and 2) that is the same for each reaction medium, the reactivity probe comprises at least one reaction unit (substituted ketones, acetals, and alcohol functional groups), and at least one catalyst (cinchona modified Pt catalyst 1, 2, 3, or 4),

b) analyzing, by a liquid or gas chromatography method, each reaction medium after reaction (GLC, HPLC, Table 1 footnote a),

c) assigning a result of the analysis according to stage b) (Ee and rate/mmol) to the reactivity probe in the database (The tabulated results of Tables 1 and 2), this result characterizing reaction products obtained from the reactivity probe and from the reactions of the reaction media (the results characterize the R or S enantiomer reaction products obtained from reactions of the reaction media), the database being a relational database comprising:

a first entity in which is recorded information relating to reaction units listed in the database (the functional groups of compounds with R¹ and R³, Table 1; the functional groups of pyruvaldehyde dimethyl acetal and its hydrogenated product, Table 2),

a second entity comprising information relating to a state of bonds of at least one reaction unit listed in the first entity (Ee, Tables 1 and 2),

a third entity in which is recorded information associated with the different reaction media (footnote, Table 1; solvent/modifier, Table 2) and

at least one fourth entity in which is recorded information related to the analytical results of the reaction media on conclusion of a reaction (Rate/mmol, Tables 1 and 2);

wherein reaction units are listed individually in the database (the functional groups are individually listed in Table 1 and 2), the units being present on the reactivity probes (the functional groups are present on the α -ketoacetals/ α -hydroxy acetal pairs), and for at least a portion of the reaction units listed, information is associated with each unit listed that describes a states of bonds (Ee, Tables 1 and 2) and a degree of reactivity of the bonds of the reaction unit (Rate/mmol, Tables 1 and 2);


wherein the database comprising information which informs about an influence of a structural environment of a listed reaction unit on its reactivity (R^1 and R^3 substitution, Table 1; pyruvaldehyde dimethyl acetal, Table 2).

Regarding claim 4, Studer teaches that the plurality of different reaction media comprises at least two reaction media comprising different catalysts (Table 2).

Regarding claim 6, Studer teaches that stages a) to c) are repeated for a plurality of different reactivity probes (Table 1) and/or a plurality of different reaction media (Table 2).

Regarding claim 7, Studer teaches that for at least one reactivity probe, a file is generated collating a group of results covering all the conversions which have been carried out on said probe (Tables 1 and 2).

Regarding claims 9 and 28, Studer teaches that the reaction media are configured to form or break a $-\text{CO}$ bond (Table 1 scheme).

Regarding claim 20, Studer teaches that the reaction unit is chosen from , $\text{C}=\text{O}$ (Table 1 scheme).

Regarding claim 21, Studer teaches that the database comprises, for each catalyst listed, information relating to the reaction medium in which the catalyst was tested for its catalytic activity (Table 1 and 2 footnotes; Solvent/Modifier, Table 2).

Regarding claims 25 and 29, Studer teaches that the database comprises data about activity of a portion at least of the catalysts listed according to one or more reaction conditions, wherein the different reaction conditions are selected from the temperature of the reaction medium, the acidity, a pressure, a presence of solvents or the analytical method (footnotes, Tables 1 and 2).

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
8. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over Studer.

Although Studer teaches integer values and low values for enantiomeric excess (the chiral state of the bonds) (Table 2), Studer does not teach integer values ranging from 0 to 3. Examiner takes Official Notice that determination of reaction conditions that provide enantiomeric excess of 0, 1, 2, or 3 percent is well known. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). The discovery of an optimum value of a known result effective variable, without producing any new or unexpected results, is within the ambit of a person of ordinary skill in the art. See *In re Boesch*, 205 USPQ 215 (CCPA 1980) (see MPEP § 2144.05, II.). For the benefit of identifying which reaction conditions only provide enantiomeric excess of 0, 1, 2, or 3 percent, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Studer wherein the state of the bonds is an integer ranging from 0 to 3.

Response to Arguments

9. Applicant's arguments filed 15 November 2010 have been fully considered but they are not persuasive.
10. Applicant traverses the current rejections under 35 USC 112. These arguments are not persuasive for the following reasons:

Claims 1, 2, 3, and 27 recite the limitation "the reactivity probe in the database" in stage c. There is insufficient antecedent basis for this limitation in the claims because although stage a) recites "a reactivity probe," stage a) does not recite that this reactivity probe is in a database. Likewise, the preamble recites "a database" but does recite that this database comprises a reactivity probe.

Claim 21 recites the limitation "the reaction medium in which the catalyst was tested for its catalytic activity." There is insufficient antecedent basis for this limitation in the claim because claim 1 does not recite testing catalysts for catalytic activity.

Claim 25 recites the limitation "the catalysts listed according to different reaction conditions." There is insufficient antecedent basis for this limitation in the claim because claim 1 does not recite that catalysts are listed.

11. Applicant traverses the rejections under 35 USC 102(b).

Applicant argues that Studer does not teach a "method for creating a database" and especially a database "which makes it possible to select at least one catalyst suitable for a reaction." This argument is not persuasive. Firstly, a limitation within a claim preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Nevertheless, Studer does recite a method for creating a database for selecting at least one catalyst suitable for a reaction. A database is an organized collection of data. Therefore, Tables 1 and 2 within the Studer reference qualify as a database. Tables 1 and 2 disclose at least one catalyst suitable for a reaction. Applicant argues that Studer does not attempt to disclose a database because the reference is solely directed to a specific chiral catalyst system based on the hydrogenation of α -ketoacetals to the corresponding α -hydroxy acetals. This argument is not persuasive because the claims do not require that the database comprise more than one broad class of reaction (e.g., hydrogenation), more than one broad class of reaction substrate (e.g., α -ketoacetals), or more than one broad class of reaction catalyst (e.g. cinchona modified Pt catalysts).

Regarding claim 1, Applicant alleges that Studer does not disclose analyzing each reaction medium after reaction and "assigning a result of the analysis...to the reactivity probe in the database, this result characterizing reaction products obtained from the reactivity probe." This argument is not persuasive. Studer teaches analyzing each reaction medium after a reaction by either GLC or HPLC (Table 1 footnotes). The results of the analysis (e.g. Ee and rate/mmol)

are assigned to the reactivity probe (the varied α -ketoacetals/ α -hydroxy acetal pairs of Tables 1 and 2) via tabulation in Tables 1 and 2. The results of the analysis (Ee and rate/mmol) characterize reaction products obtained from the reactivity probe (the R or S enantiomer α -hydroxy acetal products).

Regarding claims 2 and 3, Applicant alleges that Studer does not disclose "reaction units are listed individually in the database, the units being present on the reactivity probes" and "the database comprising information which informs about an influence of a structural environment of a listed reaction unit." This argument is not persuasive. Studer teaches reaction units (the variously substituted ketones, acetals, and alcohol functional groups of the α -ketoacetals and α -hydroxy acetals, and the variations in the reaction units are listed individually (e.g., the R¹ column of Table 1). The reaction units (functional groups) are present on the reactivity probes (the α -ketoacetals/ α -hydroxy acetal pairs). The R¹ and R³ substitutions listed in Table 1 are information that informs about an influence of a structural environment of a reaction unit

Regarding claim 27, Applicant alleges that Studer does not disclose "assigning a result of the analysis...to the reactivity probe in the database, this result characterizing reaction products obtained from the reactions of the reaction media." This argument is not persuasive. The results of the analysis (Ee and rate/mmol) are assigned to the reactivity probe (the varied α -ketoacetals/ α -hydroxy acetal pairs of Tables 1 and 2) via tabulation in Tables 1 and 2. The results of the analysis (Ee and rate/mmol) characterize reaction products obtained from the reactions of the reaction media (the R or S enantiomer α -hydroxy acetal products are obtained from reactions of the reaction media).

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle M. Adams whose telephone number is (571) 270-5043. The examiner can normally be reached on M-Th, alternating F; 9:00 A.M.-6:30 P.M. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Y. Kim can be reached on (571) 272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yelena G. Gakh/
Primary Examiner, Art Unit 1777

/Michelle M. Adams/
Examiner, Art Unit 1777